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A Third Species of Eusiphona, with Remarks on the Systematic Position of the Genus (Diptera, Milichiidae)

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For more than a half century the peculiarly distinctive genus *Eusiphona* Coquillett, originally described in the Tachinidae and subsequently recognized as an acalypterate of the family Milichiidae, was known from a single species, *E. mira,* described in 1897 by Coquillett. In 1953 (Ent. News 64: 38), the writer described a second species, *E. flava,* easily distinguished from *mira* by its orange-yellow color. Recently a third species, unusually significant in structural features, was reared by Kenneth W. Cooper in the course of his interesting studies, particularly by means of trap nests, on the biology of the eumenine wasp *Ancistrocerus antilope* (Panzer) (1953, Trans. Amer. Ent. Soc. 79: 13–35).

Dr. Cooper has kindly furnished the following information, which is, I believe, the first clue to the habits of *Eusiphona.* The trap nest, number 83, was placed out on June 30, 1952, about one foot above the ground in a stone wall, and was picked up on August 14 of the same year, after it had been sealed by *Ancistrocerus.* "It was an unusual nest, for cells 1–5 (in order of formation) were those of a megachilid bee. Cell 6, the last provisioned cell, contained an *Ancistrocerus antilope* larva that emerged as a mature female May 3, 1953. The nest was opened at that time, and the leaf fragments of the leaf rolls of the mega-

chilid bee were interpenetrated by the milichiid puparia. Flies that had emerged in the nest had, of course, been unable to exit from it because of *A. antilope's* posterior mud wall that was plastered over the leaf roll of megachilid cell 5. Unemerged puparia were removed, and some flies emerged from them in a vial. All bees had perished." These data do not furnish definite information on the habits of the larvae of *Eusiphona,* but it appears that they are in some way associated with the megachilids.

Key to the Species of Eusiphona

1. Entirely black in ground color; mesopleuron bare, rarely with one or two short and inconspicuous setae near posterior margin; widespread (Maine to Fla., Vera Cruz, Calif., and Wash.) ..... *E. mira* Coq.
   Not entirely black, at least the legs and antennae in part, and the palpi, orange-yellow ..... 2.
2. Thorax, abdomen, coxae and femora black; mesopleuron with conspicuous bristles and setae along posterior margin (N. Y., Ohio) ..... *E. cooperi,* new species
   Thorax except disk of mesonotum and scutellum, and abdomen and legs entirely, yellow to orange-yellow; mesopleuron bare (Utah) ..... *E. flava* Sabr.

Eusiphona cooperi, new species

Like the genotype, *E. mira* Coq., in habitus and structural characters, but with palpi, antennae in part, tibiae, and tarsi orange-yellow.

Male.—Black, as in *E. mira*, only the palpus, narrow apical margin of second antennal segment, basoventral half to three-fifths of third segment, and all knees, tibiae and tarsi yellow to orange-yellow. Front velvet black in most aspects, dull dark brown pollinose; anterior half of parafrontals and entire face whitish pollinose. Thorax and abdomen subshining, but dark brown pollinose. Halter dark brown to black. Wing brown.

Head in profile as in *E. mira* (cf. Curran, 1934, Families and Genera of North American Diptera, p. 335, fig. 12), each segment of proboscis slightly longer than height of head. Thorax as in *mira*, but mesonotal bristles appearing proportionately

longer and stronger, and mesopleuron along posterior margin with several strong, conspicuous bristles and a few coarse setae. Wing venation essentially as in *E. flava,* differing from that figured for *mira* (Curran, l.c., p. 335, fig. 5) as follows: Subcostal break in costa fairly strong, diagonal, with basal portion of costa slightly superimposed as a lappet, nearly as well-developed as in *Milichiella;* anterior crossvein directly behind the subcostal break in costa, the penultimate section of fourth vein two-thirds as long as that of third vein; first posterior cell only slightly broadened opposite the hind crossvein, and not so strongly narrowed distally, the third and fourth veins at the costa separated by a distance equal to length of small crossvein.

Female.—As described for the male, but more brightly colored, the pollinosity of thorax light grayish brown, and the front yellowish-gray pollinose in all aspects; third antennal segment more extensively orange-yellow, only a narrow dorsal margin black; second antennal segment predominantly orange-yellow; knob of halter yellowish; wing membrane only slightly browned.

Length, 3–3.5 mm.

Holotype male, *allotype,* and eight *paratypes* (2 males, 6 females), Rensselaerville, New York (K. W. Cooper); paratype male, Wauseon, Ohio, Aug. 21, 1902. Type No. 62565 in the U. S. National Museum, the type series deposited by courtesy of the collector. The type and allotype are on one mount together with two female paratypes and four puparia.

The habitus of *cooperi* immediately suggests the well-known *E. mira.* Indeed the Ohio paratype has long stood in the collection under that name, and all series of *mira* should be reexamined for the new species. Besides the color differences, the presence in *cooperi* of strong mesopleural bristles will distinguish it at once from *mira.* Actually, a few *mira* with mesopleural setae have been seen. Examination of the thirty-one available specimens of *mira* gave the following results: In 25, the mesopleura were entirely bare; in three females, a short seta was present on each mesopleuron near the posterior margin; in two females, two setae were present on one side and one on the other; and in one male, two setae were present on each side.

All setae are short and dark, and thus inconspicuous and easily overlooked.

The presence of strong mesopleural bristles is an interesting feature which will require modification of some existing generic keys. The combination of a rather strong costal excision and mesopleural bristles would ordinarily serve to place *cooperi* as a species of *Pholeomyia* Bilimek, although the general habitus, wing venation, and above all the unusually elongate, slender, geniculate proboscis associate it readily enough with *Eusiphona*. In both costal and mesopleural characters, therefore, *cooperi* appears to connect the genera *Pholeomyia* and *Eusiphona*. The latter may have developed from the former by unusual development of the proboscis and reduction (in all but *cooperi*) of the mesopleural bristles.

From the close structural relationship of *Eusiphona* and *Pholeomyia*, it is clear that the former belongs in the Milichiinae near *Pholeomyia* and *Milichia*, as already recognized by Hennig (1939, Arbeiten Morph. Taxon. Ent. 6:85), and not in a different subfamily as given in most available keys and in the recent edition of "Classification of Insects" by Brues, Melander and Carpenter (1954). Its position has probably not been recognized because the genotype and long the only known species, *E. mira*, has a very weak costal excision. *Eusiphona flava*, the second described species, has it only slightly stronger. The excision is most distinct in the present species, which is thus more obviously related to the Milichiinae.

In some species of *Pholeomyia*, the proboscis is slender, elongate and geniculate, somewhat as in *Eusiphona*, and thus neither proboscis nor mesopleural bristles are completely useful characters for separating the two genera. However, they may be distinguished by the following features:

Orbital bristles numerous, the anteriormost few medioclinate, the remainder reclinate; third and fourth veins converging, the apical cell more or less strongly narrowed ..... *Eusiphona* Coq.

Each orbital row with median proclinate bristle, orbitals below it medioclinate, those above reclinate or lateroclinate;

third and fourth veins approximately parallel, not or almost imperceptibly converging, the apical cell not narrowed.....*Pholeomyia* Bilimek

All three species of *Eusiphona* have the postvertical bristles approximately parallel, as do many species of *Milichiella* and *Pholeomyia*. Nevertheless, in some keys (e.g., Brues, Melander and Carpenter, 1954, op. cit., p. 384), the Milichiidae are said to have convergent postverticals, as distinguished from the Carnidae with parallel postverticals. The writer does not believe that these two can be maintained as distinct families. Incidentally, Brues, Melander and Carpenter repeat the error of their first edition in referring *Rhodesiella* to the Carnidae. It is a characteristic genus of Chloropidae, particularly widespread in the Ethiopian and Oriental regions.

A New Venezuelan Terthrothrips (Thysanoptera: Phlaeothripidae)

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Terthrothrips was erected by Karny in 1925 for the Brazilian species *sanguinolentus* (Bergroth). Since then 13 more species have been added, the majority tentatively assigned to this genus by Hood in 1954. Herein is described another species, collected by Dr. Whitcomb from Venezuela. All known representatives of *Terthrothrips* are from South America. These thrips are members of the tribe Glyptothripini Priesner and of the subfamily Phlaeothripinae.

In most ways *Terthrothrips* resembles *Eurythrips* s. str. In each of these genera, the head is fairly smooth, at least the central dorsal portion of the head is not strongly reticulate; in each the prothoracic epimeral sutures are incomplete; and in each the post ocular setae are well developed. *Terthrothrips*, in general, has a longer tube than do species of *Eurythrips*, and the antennae are much longer than the antennae in *Eurythrips*.